



RECONSTRUCTED AND RENDERED IMAGE

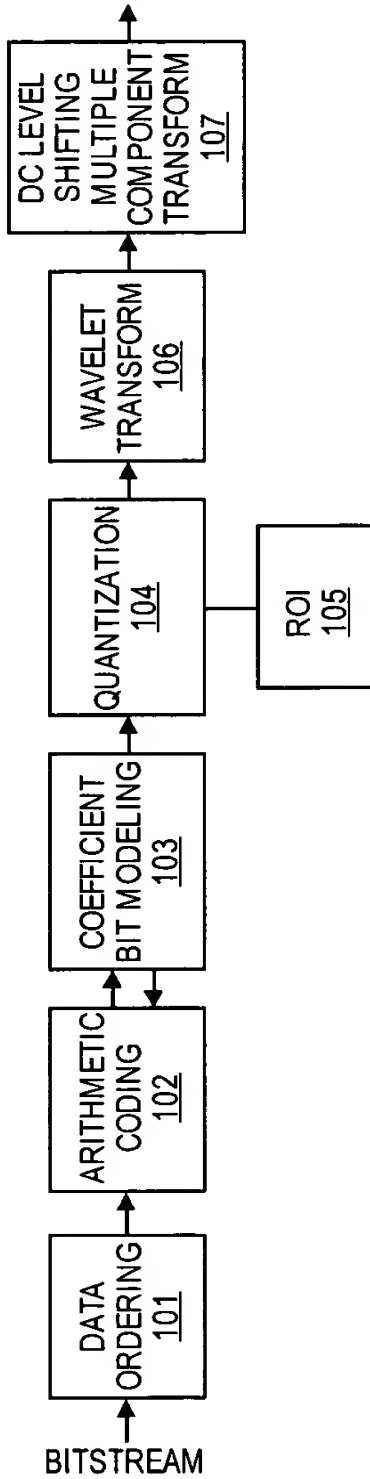


FIG. 1
(PRIOR ART)



SP 0	SP 4	C 8	C 12	C 16	C 20	C 24	C 28
R 1	SP 5	C 9	C 13	C 17	C 21	C 25	C 29
R 2	SP 6	SP 10	SP 14	SP 18	C 22	C 26	C 30
SP 3	SP 7	R 11	R 15	SP 19	C 23	C 27	C 31
C 32	SP 36	SP 40	SP 44	SP 48	C 52	C 56	C 60
C 33	C 37	C 41	C 45	C 49	C 53	C 57	C 61
C 34	C 38	C 42	C 46	C 50	C 54	C 58	C 62
C 25	C 39	C 43	C 47	C 51	C 55	C 59	C 63

FIG. 2A
(PRIOR ART)



DOCKET NO.: 74451P132

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

MICHAEL J. GORMISH, ET AL.

Application No.: 09/823,739

Filed: March 30, 2001

For: **METHOD AND APPARATUS FOR
ASSIGNING CODEBLOCKS TO CODERS
OPERATING IN PARALLEL**

Art Group: 2625

Examiner: Timothy M. Johnson

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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TRANSMITTAL OF FORMAL DRAWINGS

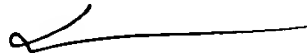
Sir:

Enclosed herewith for filing in the above-identified U.S. Patent Application are the formal drawings, 26 sheets including 38 Figures. Please charge any additional fees or credit any overpayment to Deposit Account No. 02-2666. A duplicate copy of the Fee Transmittal is enclosed for this purpose.

Respectfully submitted,

Blakely, Sokoloff, Taylor & Zafman LLP

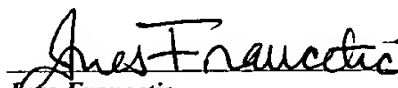
Dated: September 2, 2004


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I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


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Date

RECONSTRUCTED AND RENDERED IMAGE

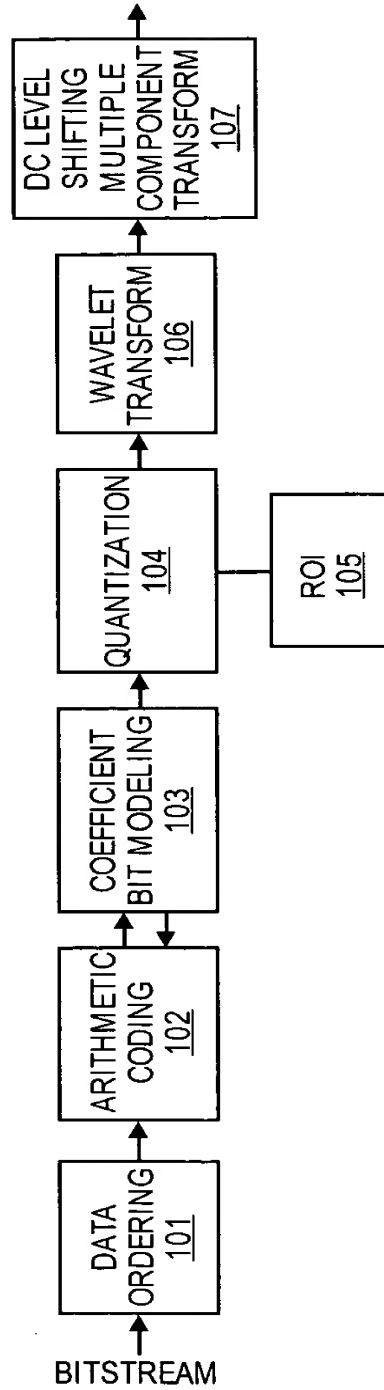


FIG. 1
(PRIOR ART)



SP 0	SP 4	C 8	C 12	C 16	C 20	C 24	C 28
R 1	SP 5	C 9	C 13	C 17	C 21	C 25	C 29
R 2	SP 6	SP 10	SP 14	SP 18	C 22	C 26	C 30
SP 3	SP 7	R 11	R 15	SP 19	C 23	C 27	C 31
C 32	SP 36	SP 40	SP 44	SP 48	C 52	C 56	C 60
C 33	C 37	C 41	C 45	C 49	C 53	C 57	C 61
C 34	C 38	C 42	C 46	C 50	C 54	C 58	C 62
C 25	C 39	C 43	C 47	C 51	C 55	C 59	C 63

FIG. 2A
(PRIOR ART)

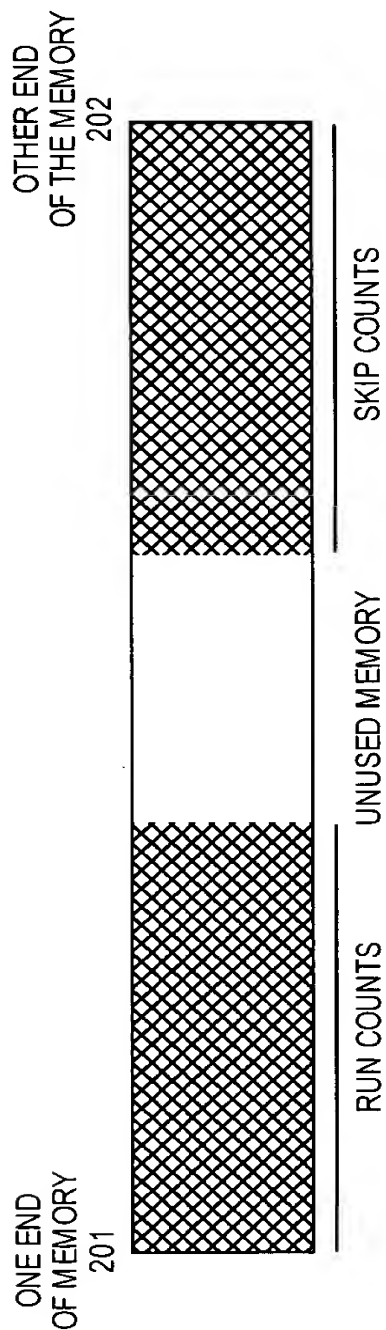


FIG. 2B

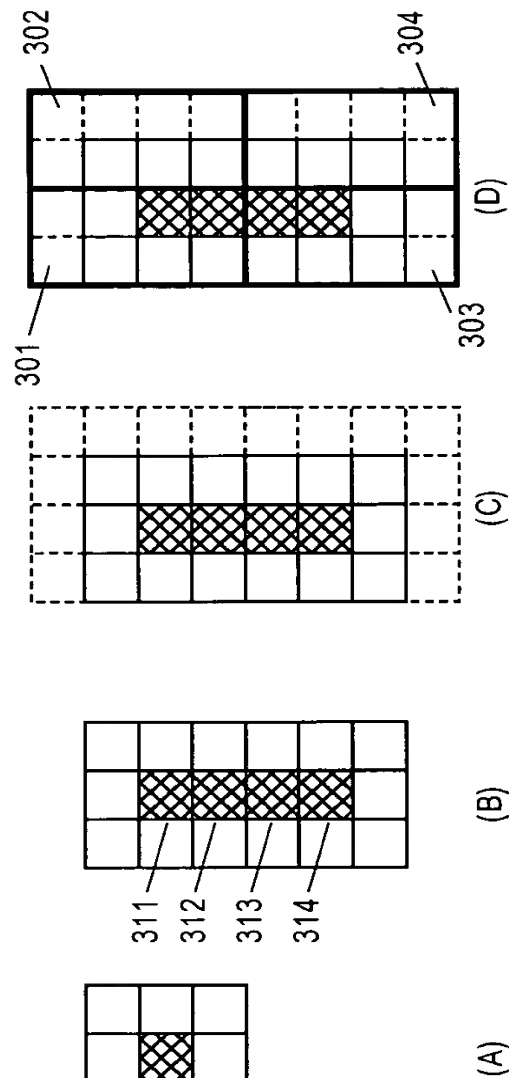


FIG. 3



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	0	1	2	3	4	5	6	7				
0	A		B		A		B		A		B	
1	C		D		C		D		C		D	
2	A		B		A		B		A		B	
3	C		D		C		D		C		D	
0	A		B		A		B		A		B	

FIG. 4

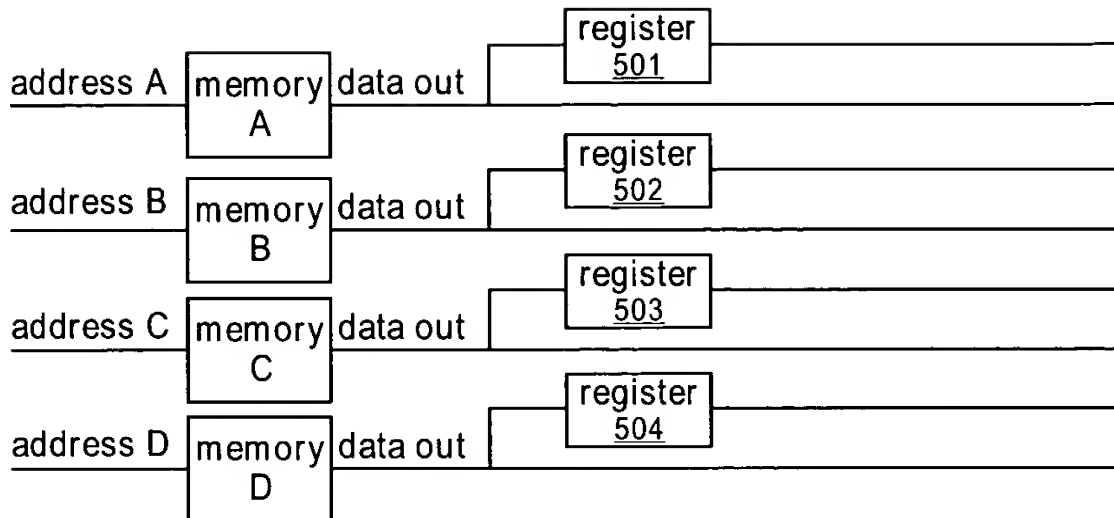


FIG. 5

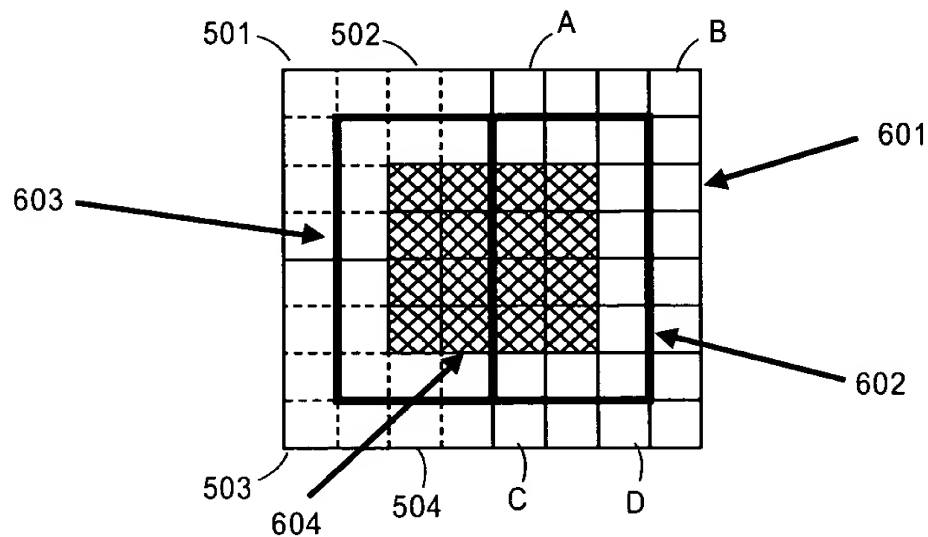


FIG. 6

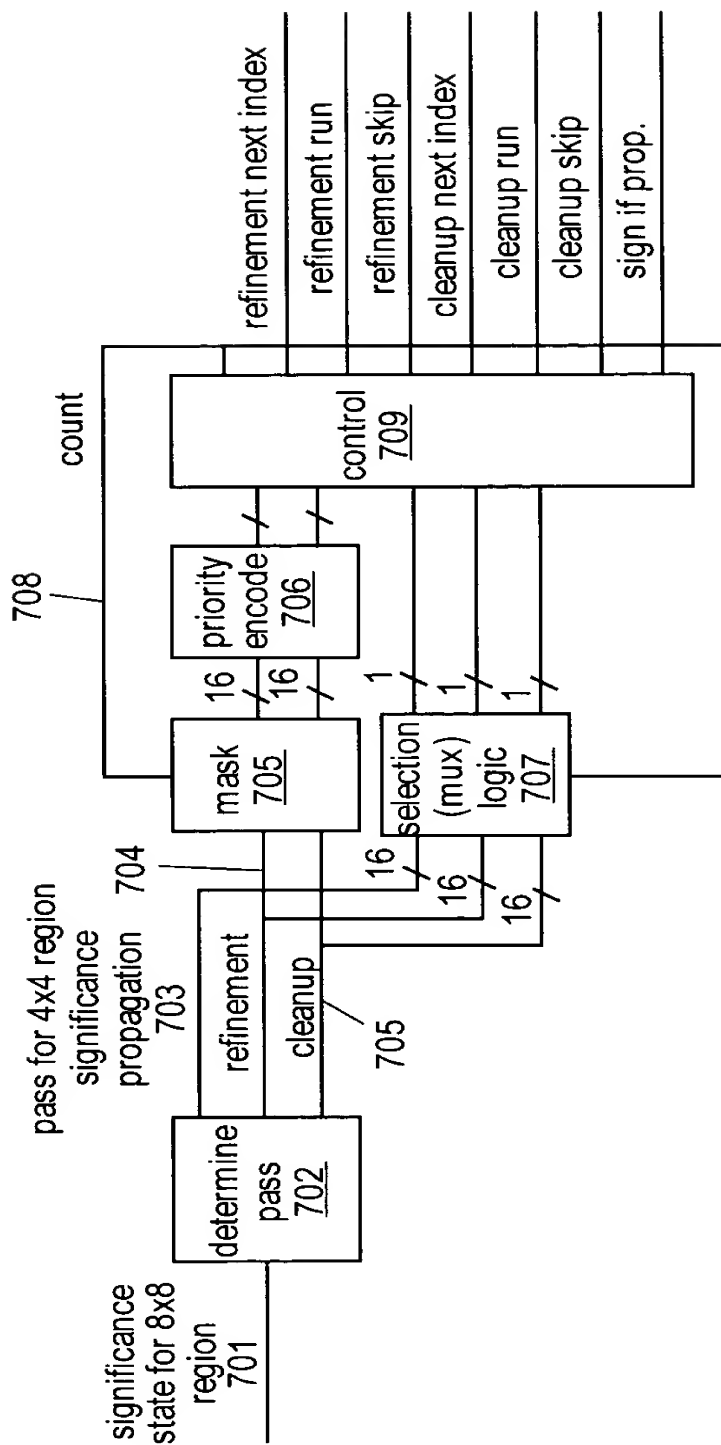


FIG. 7

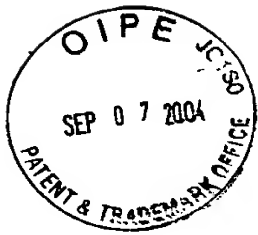
SP	SP	SP	SP
C	C	C	C
SP	SP	SP	SP
SP	R	R	SP

SP = significance propagation
C = cleanup
R = refinement

SP pass: 10×2 for SP pass coefficients
6 for C and R pass coefficients
C pass: 4×2 for C pass coefficients
R pass: 2 for R pass

total: 36 clocks = 2.25 clocks per coefficient

FIG. 8



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	0	1	2	3
0	A	A	A	A
1	B	B	B	B
2	A	A	A	A
3	B	B	B	B
0	A	A	A	A

FIG. 9

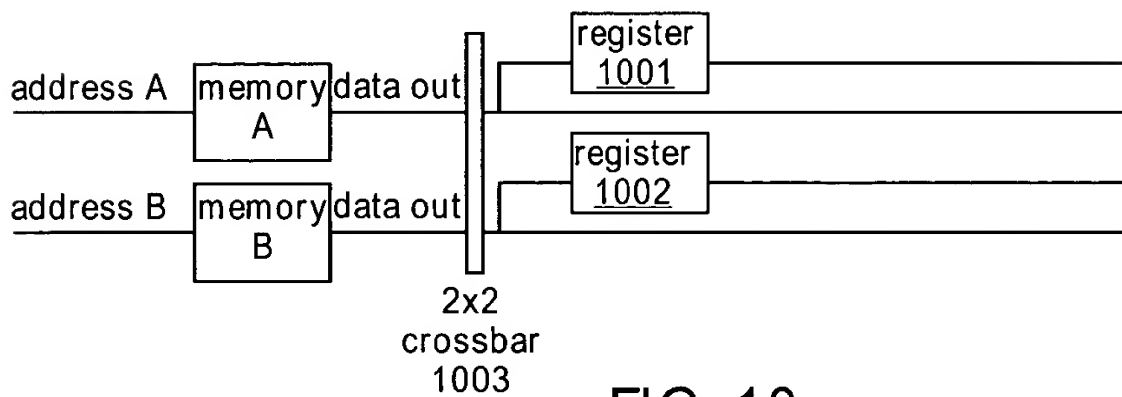


FIG. 10

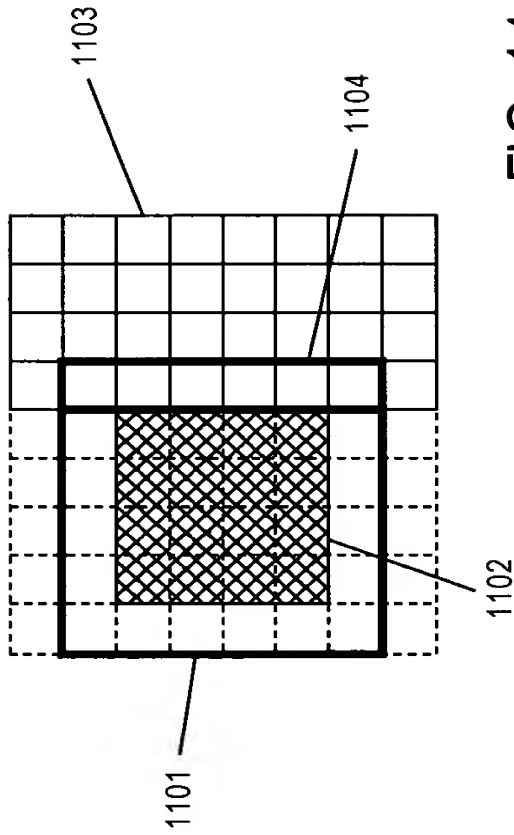


FIG. 11

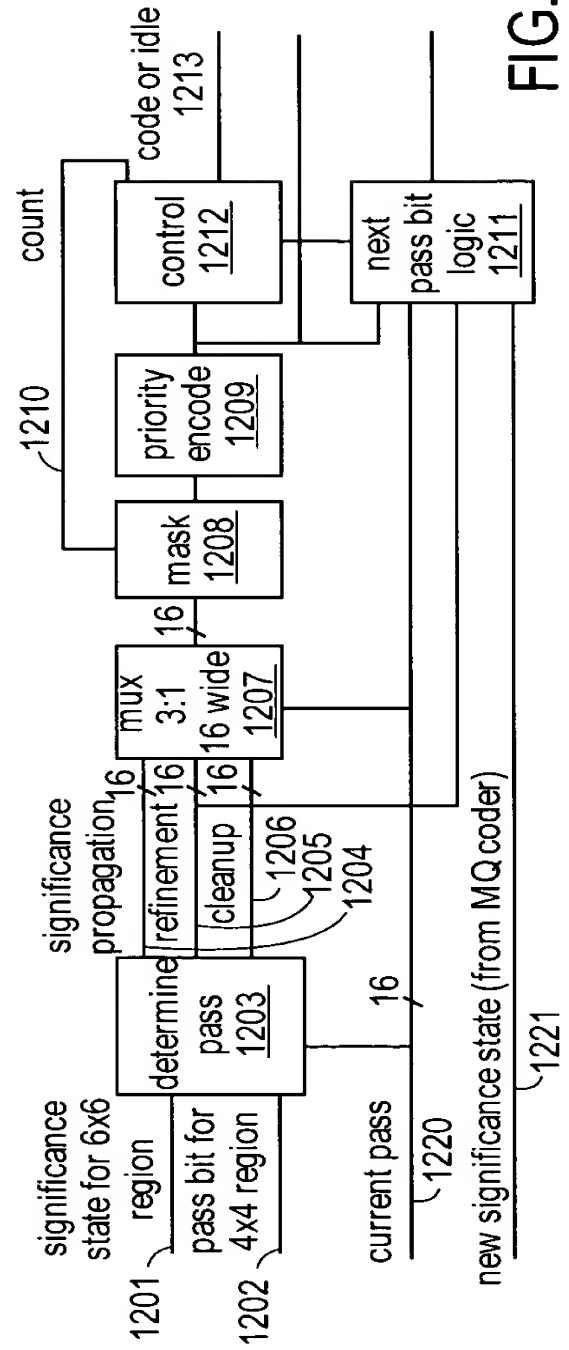


FIG. 12

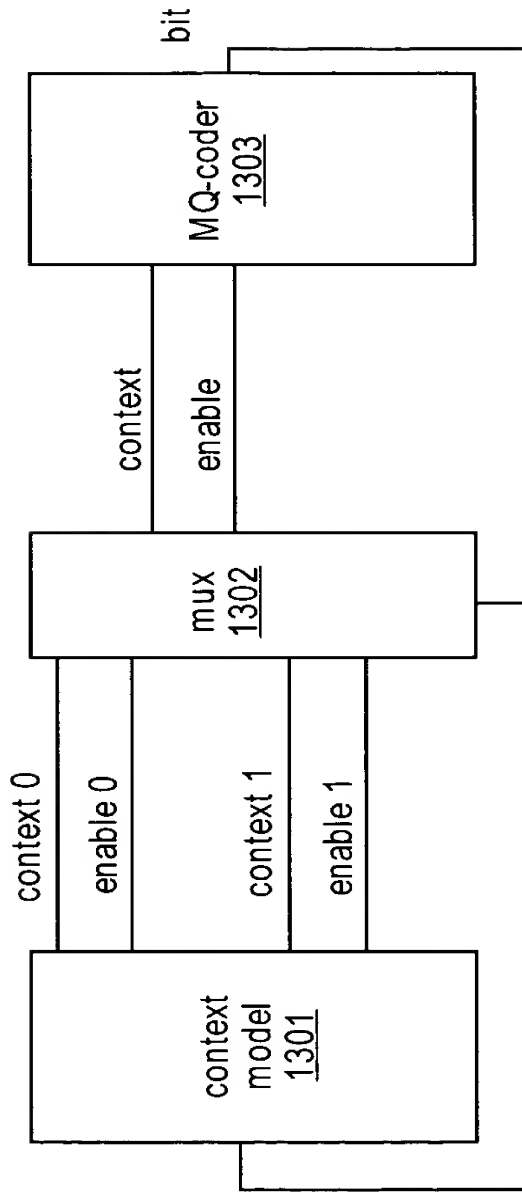


FIG. 13

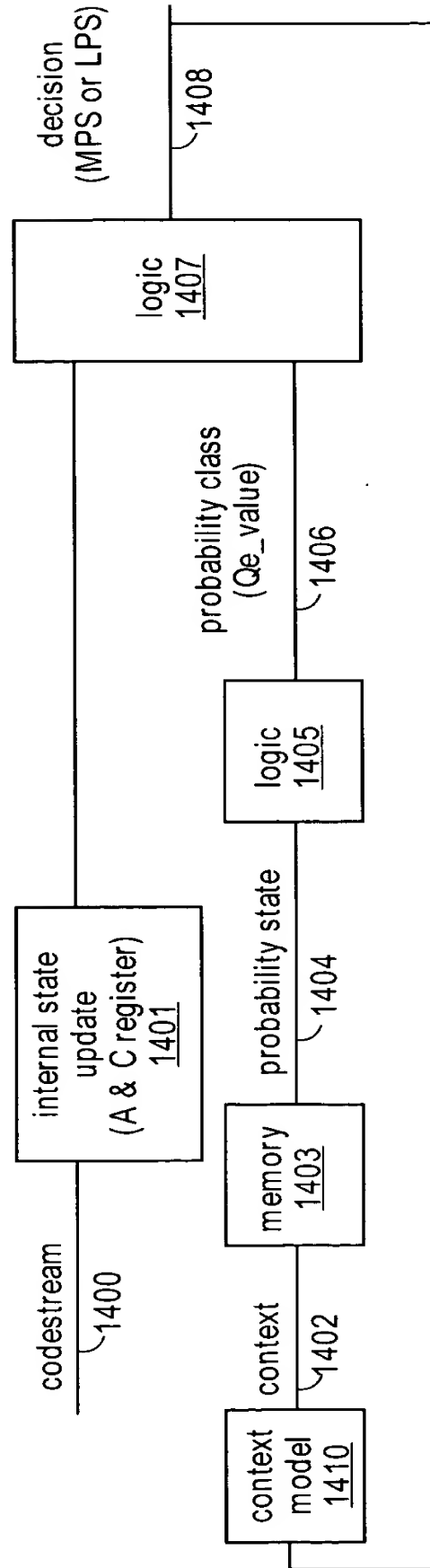


FIG. 14A

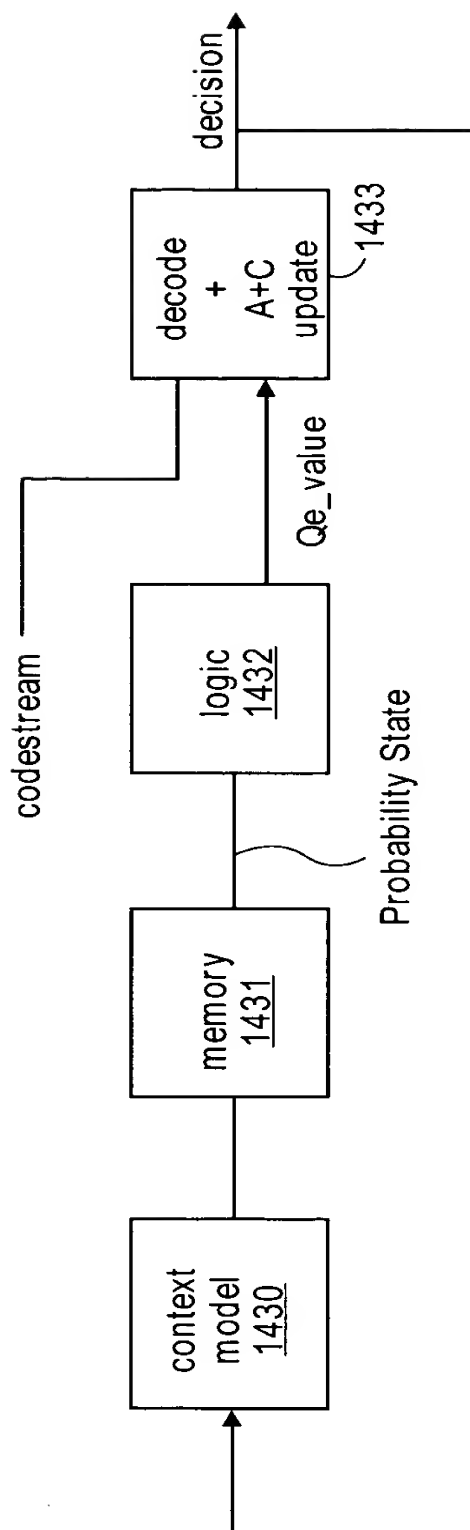


FIG. 14B

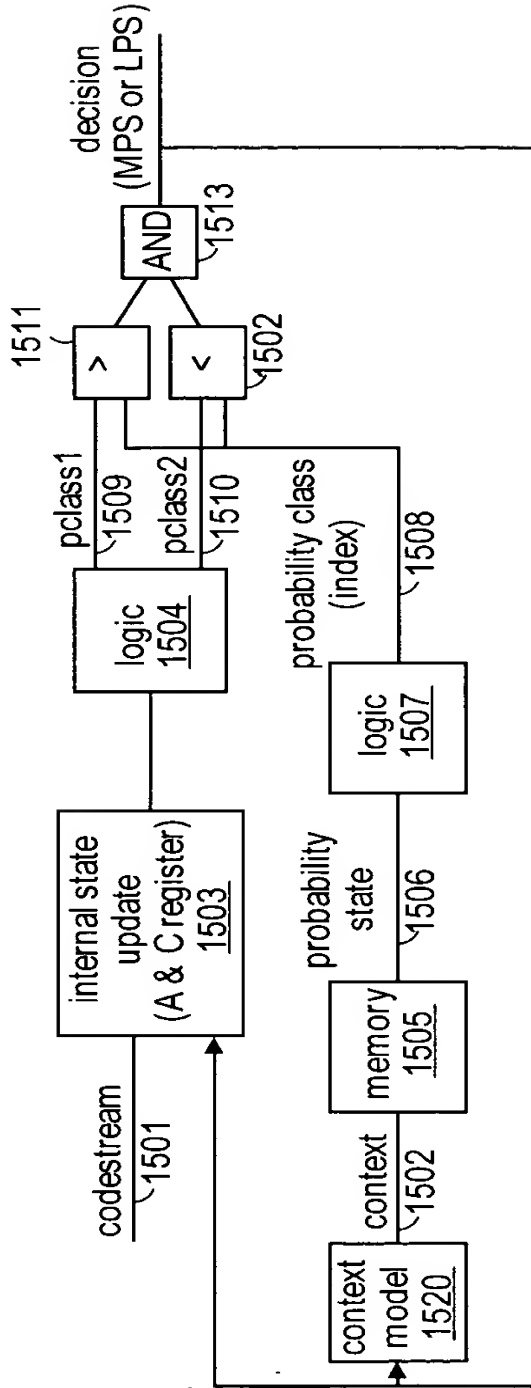


FIG. 15

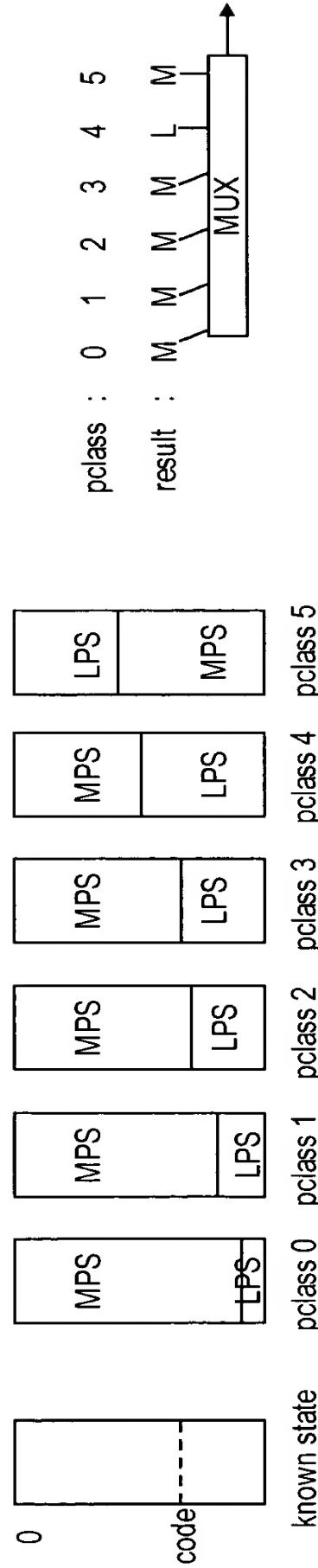


FIG. 16A

FIG. 16B



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5MPS
4 MPS
3 MPS
2 MPS
1 MPS
LPS

FIG. 17

luminance

chrominance

chrominance

A	A	A	D
A	A		
A		A	
A		A	

B	B	B	D
B	B		
B		B	
B		B	

C	C	C	D
C	C		
C		C	
C		C	

(A)

A	A	A	B
A	A		
A		A	
B		A	

C	C	C	D
C	C		
C		C	
D		C	

E	E	E	F
E	E		
E		E	
F		E	

(B)

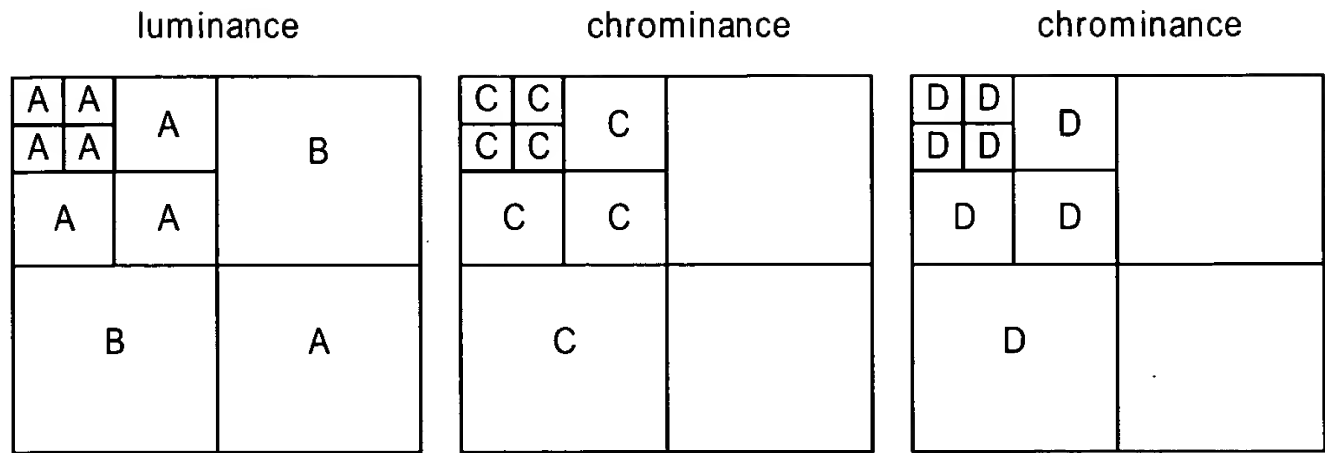
F	F	B	C
F	F		
A		A	
A		B	

G	G	C	F
G	G		
B		C	
D			H

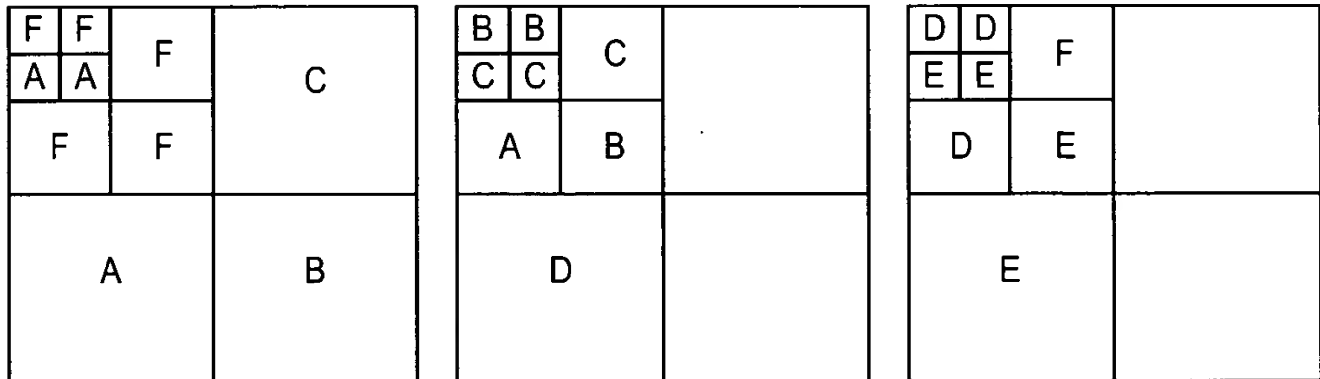
E	E	E	E
E	E		
D		D	
G		H	

(C)

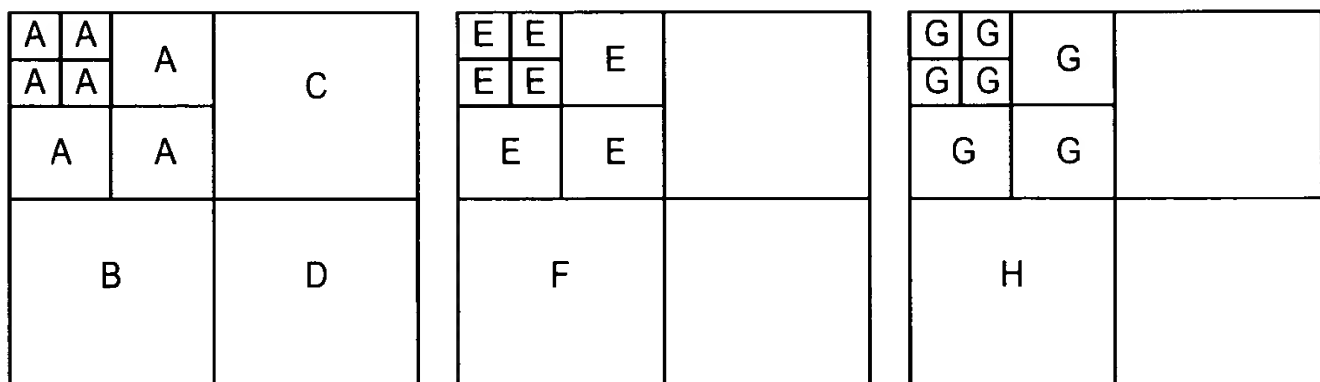
FIG. 18



(A)



(B)



(C)

FIG. 19

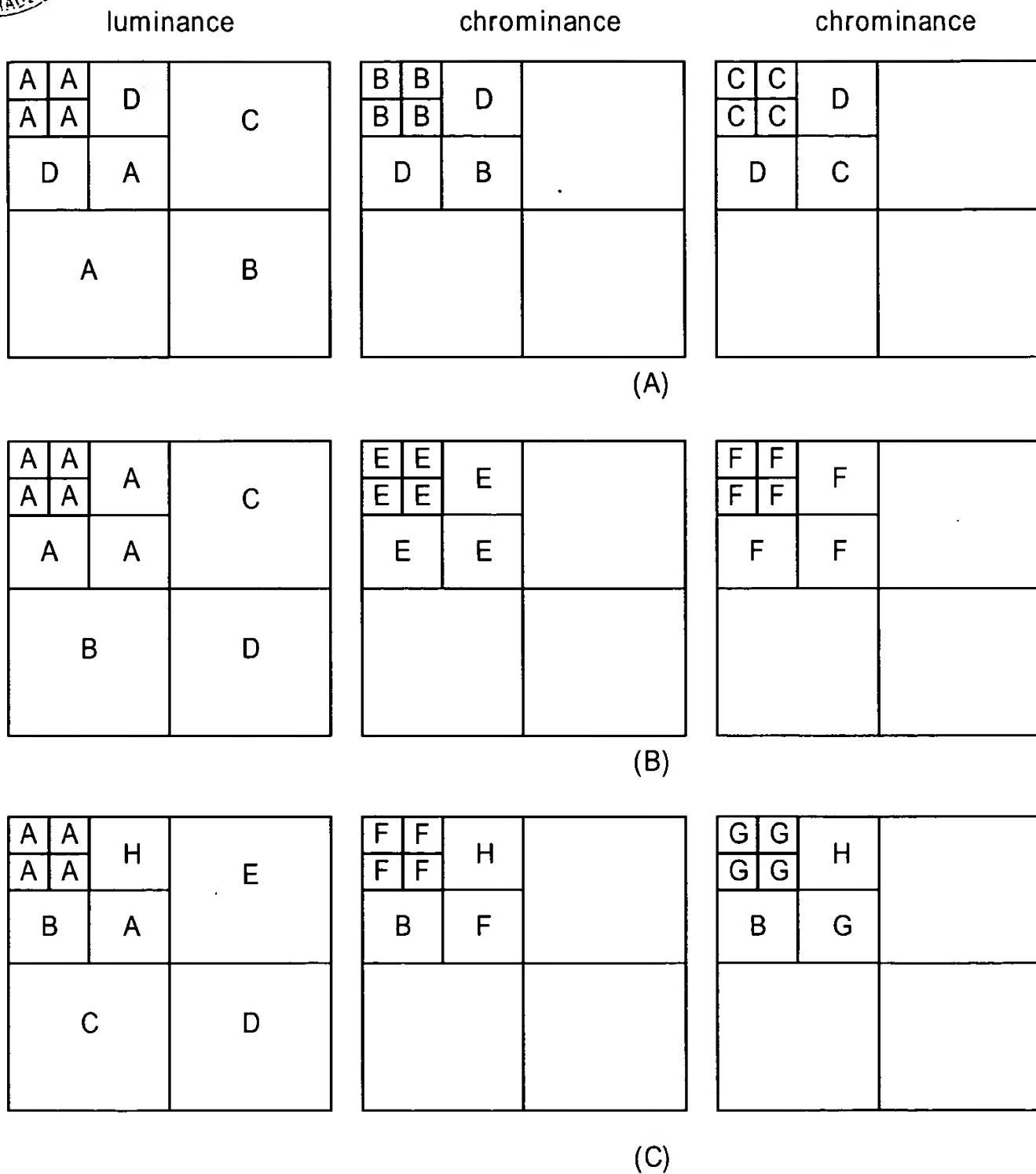


FIG. 20

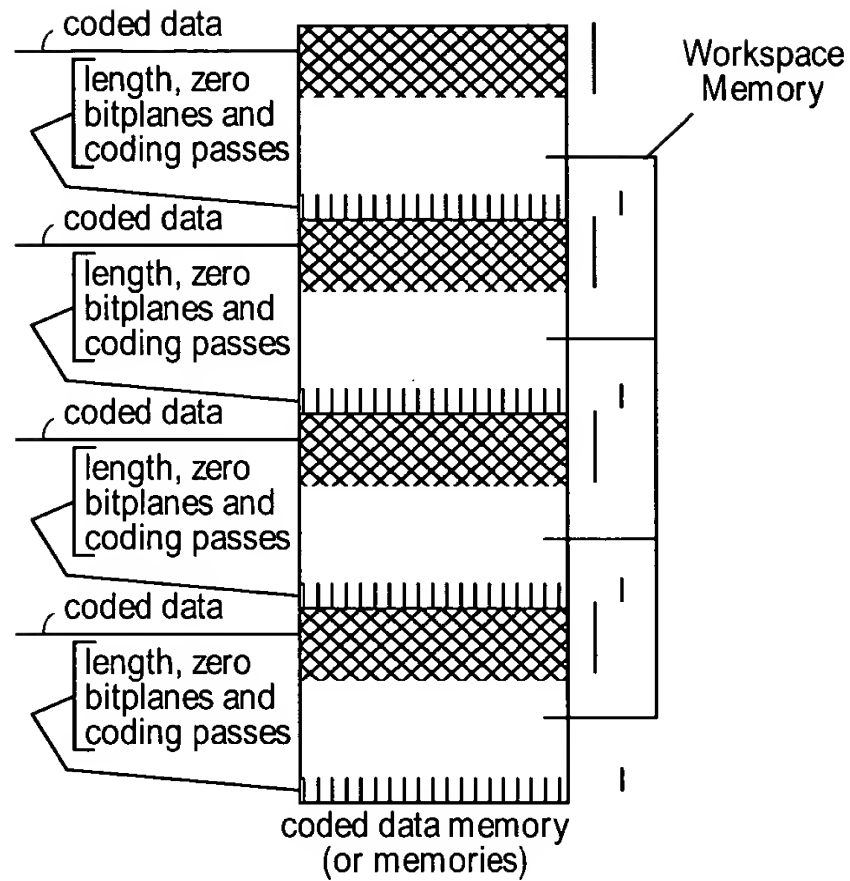
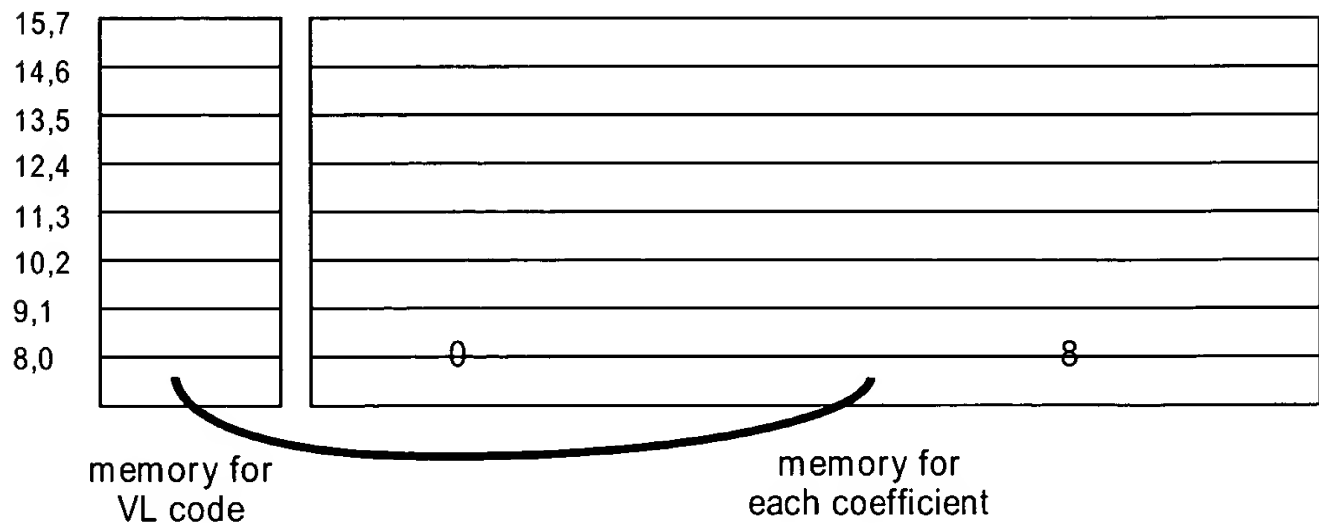
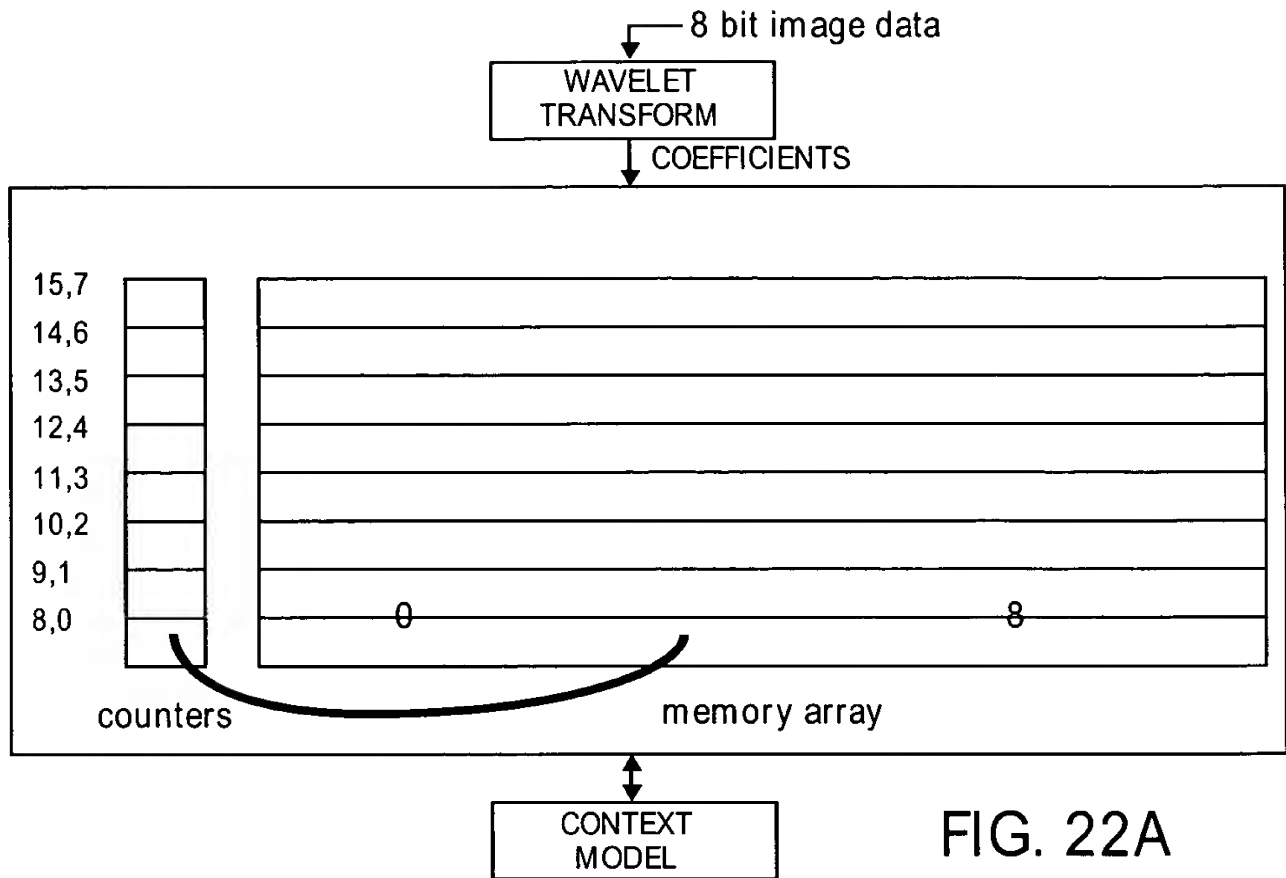


FIG. 21



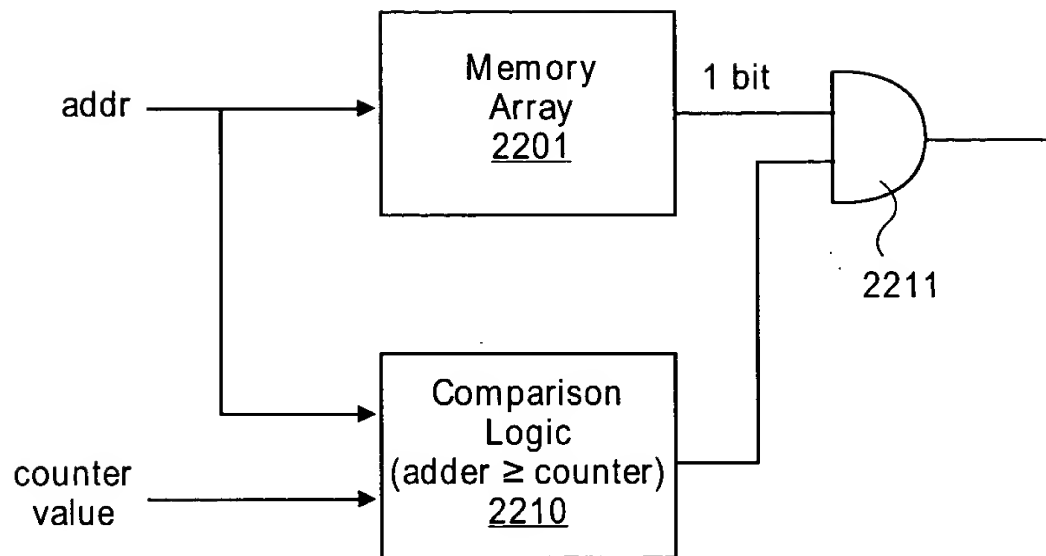
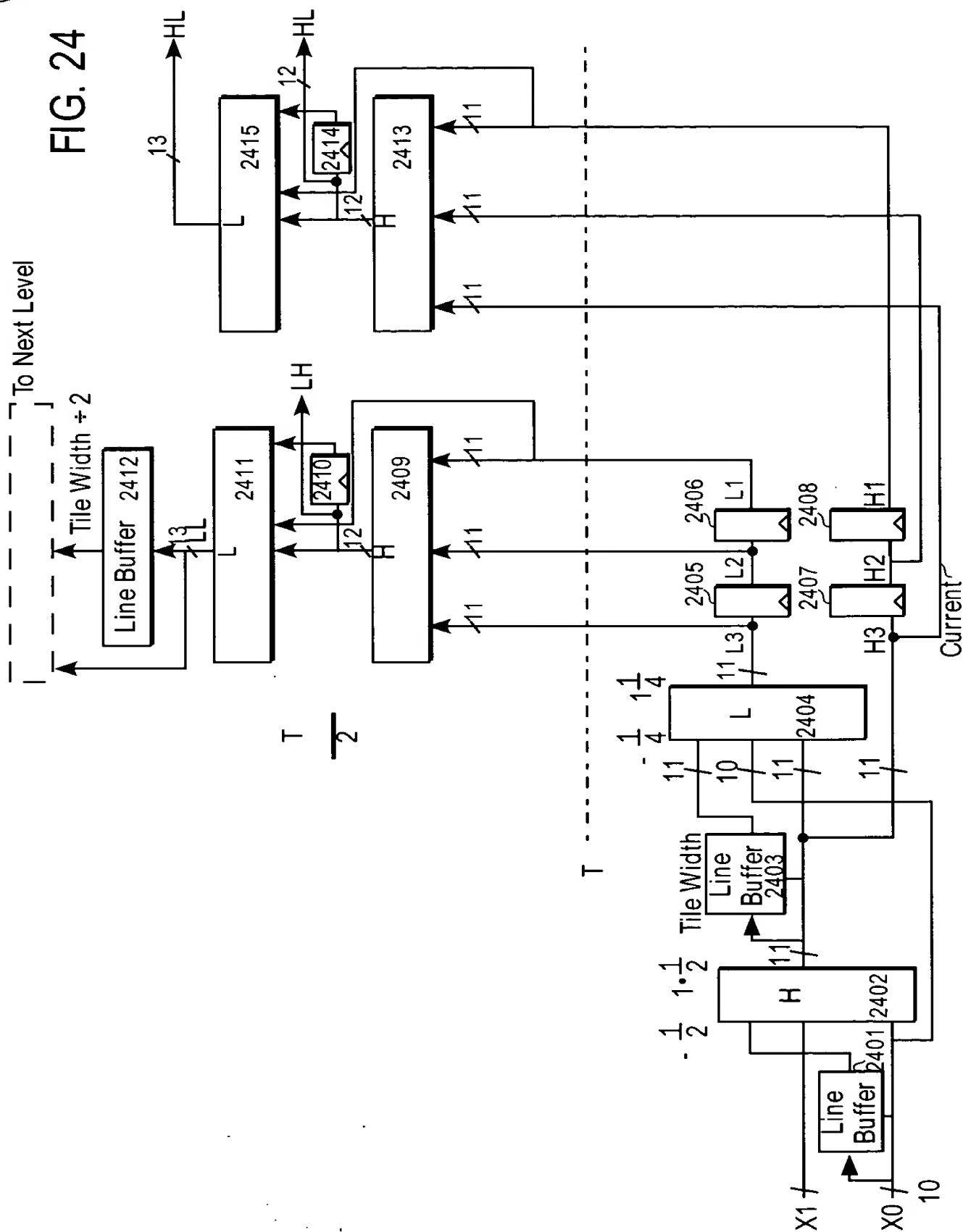


FIG. 22B

FIG. 24



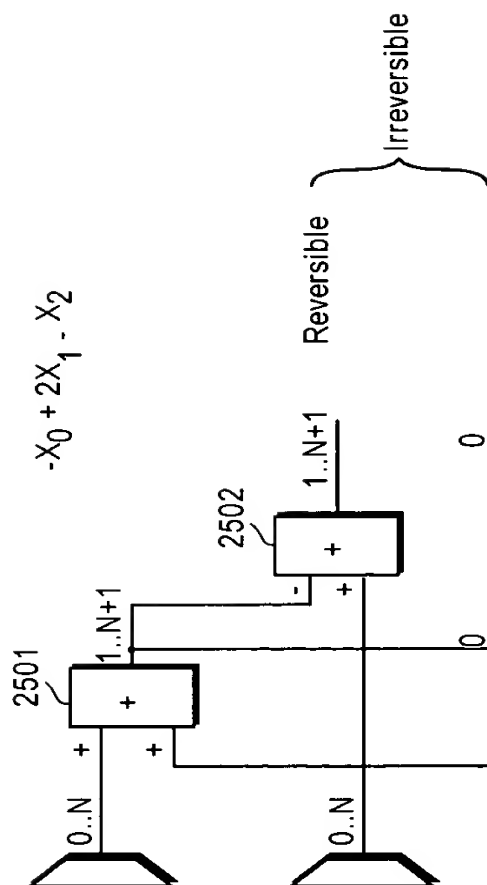


FIG. 25A

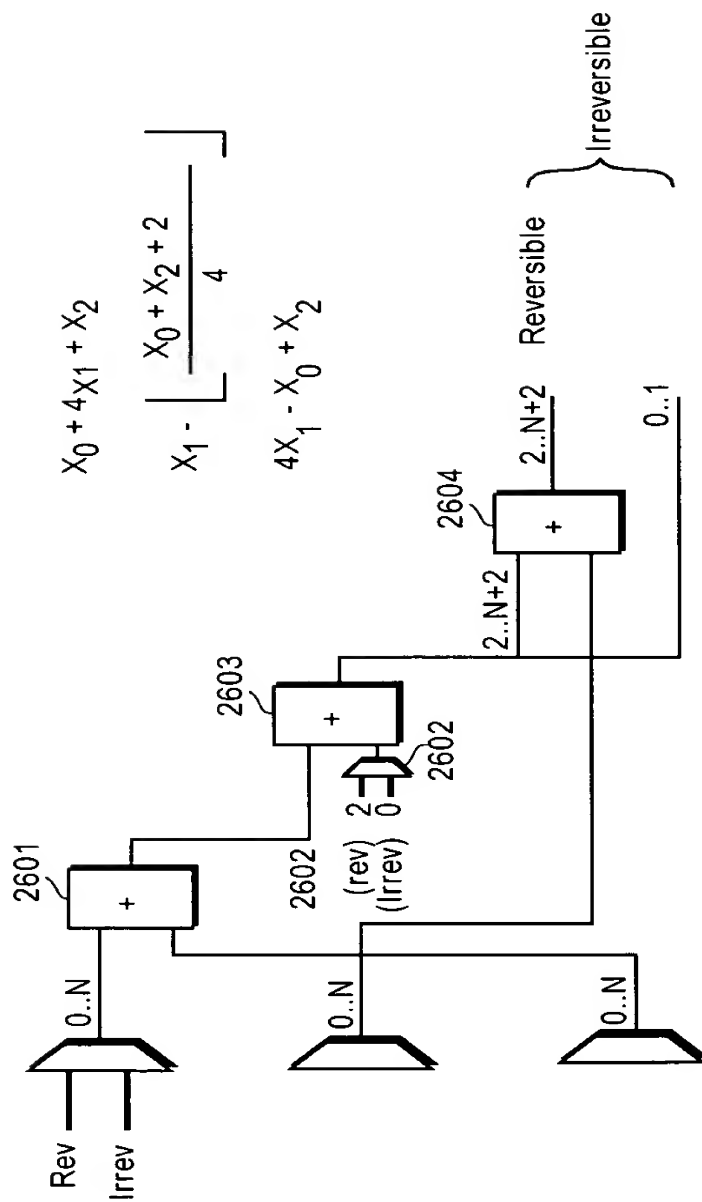


FIG. 26A

$$X_0 + 4X_1 + X_2$$

$$X_1 - \left[\frac{X_0 + X_2 + 2}{4} \right]$$

$$4X_1 - X_0 + X_2$$

FIG. 25B

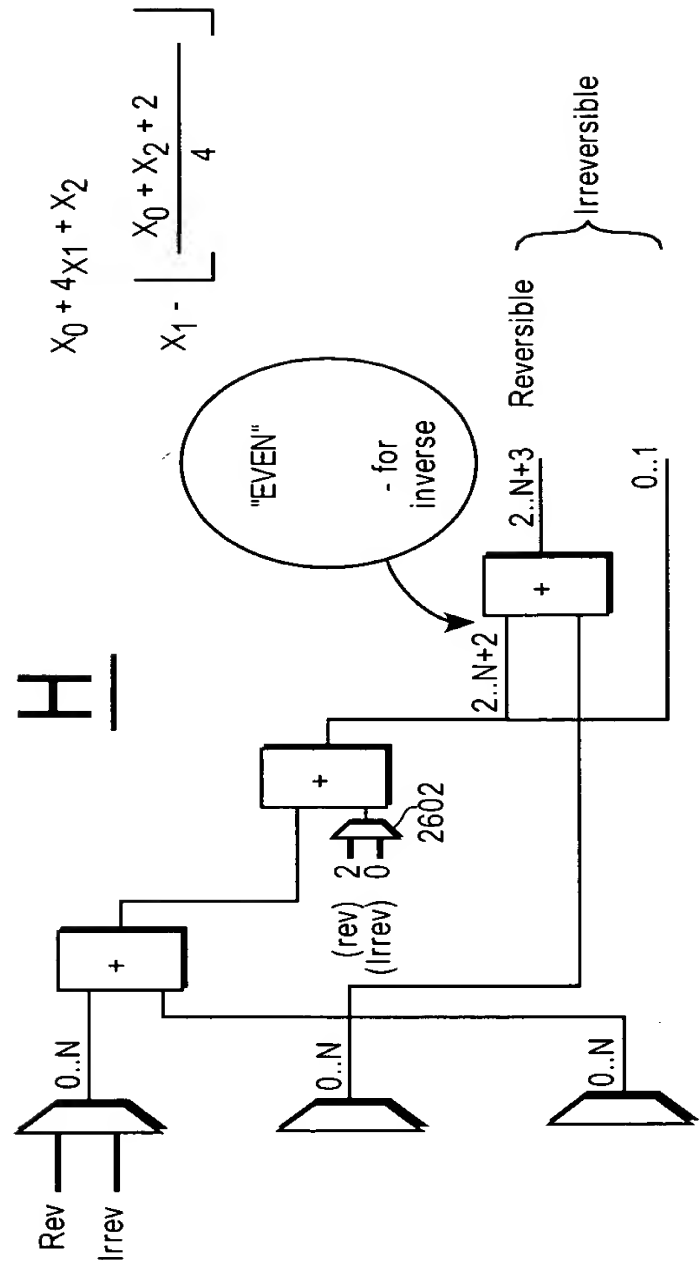
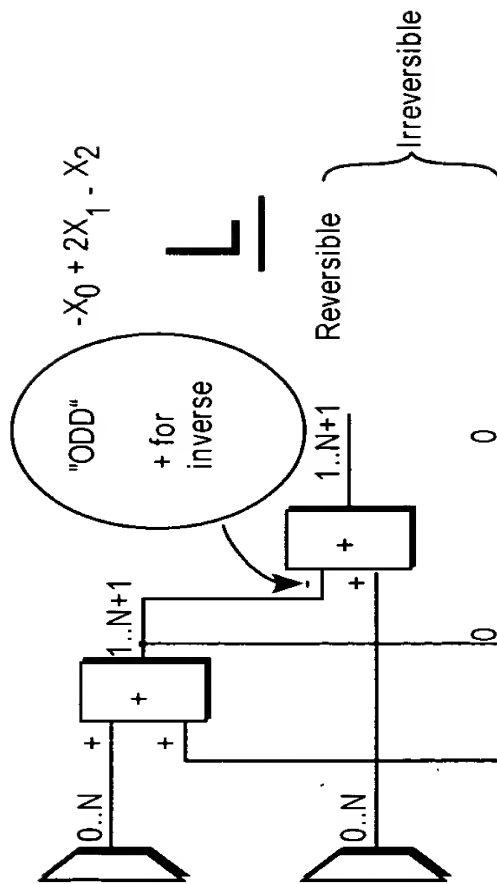


FIG. 26B

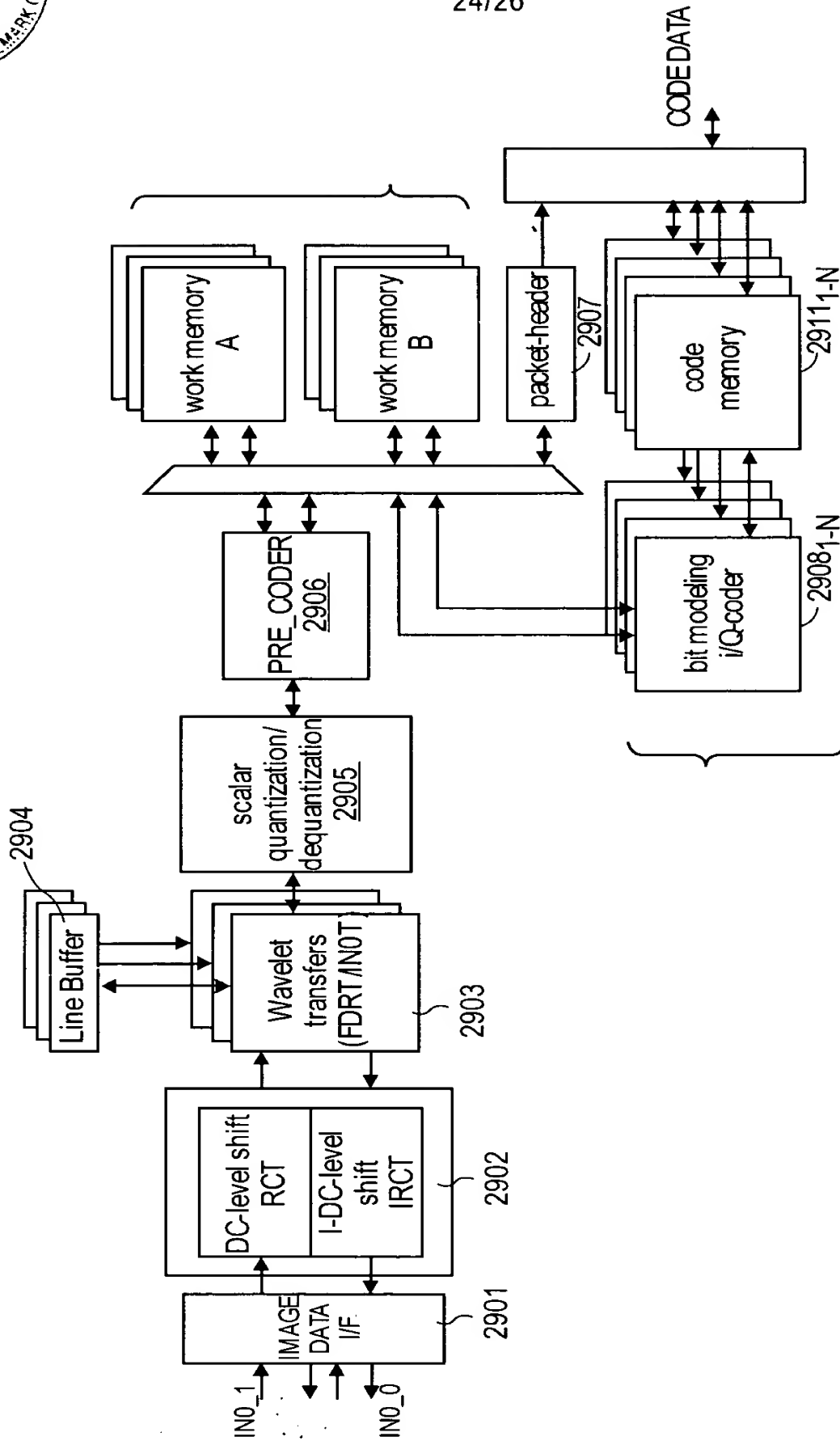


FIG. 29

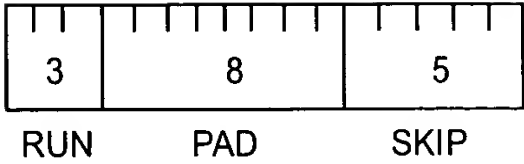
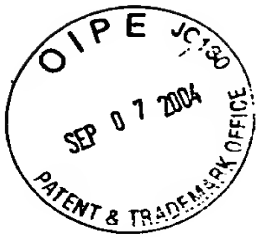


FIG. 30

8x8 region

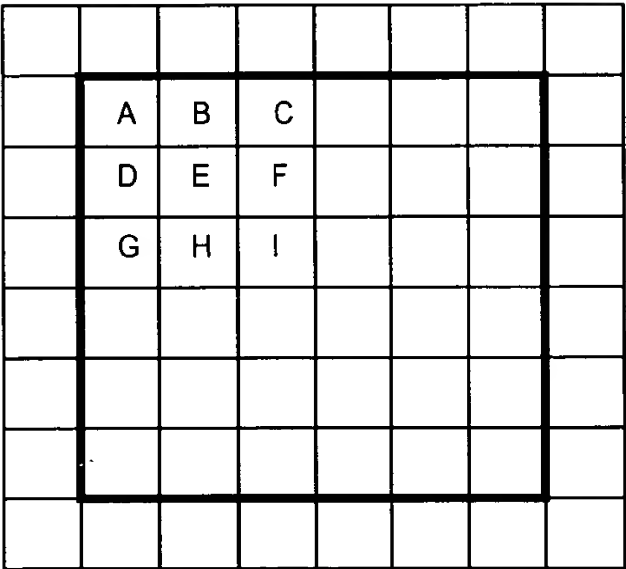


FIG. 31

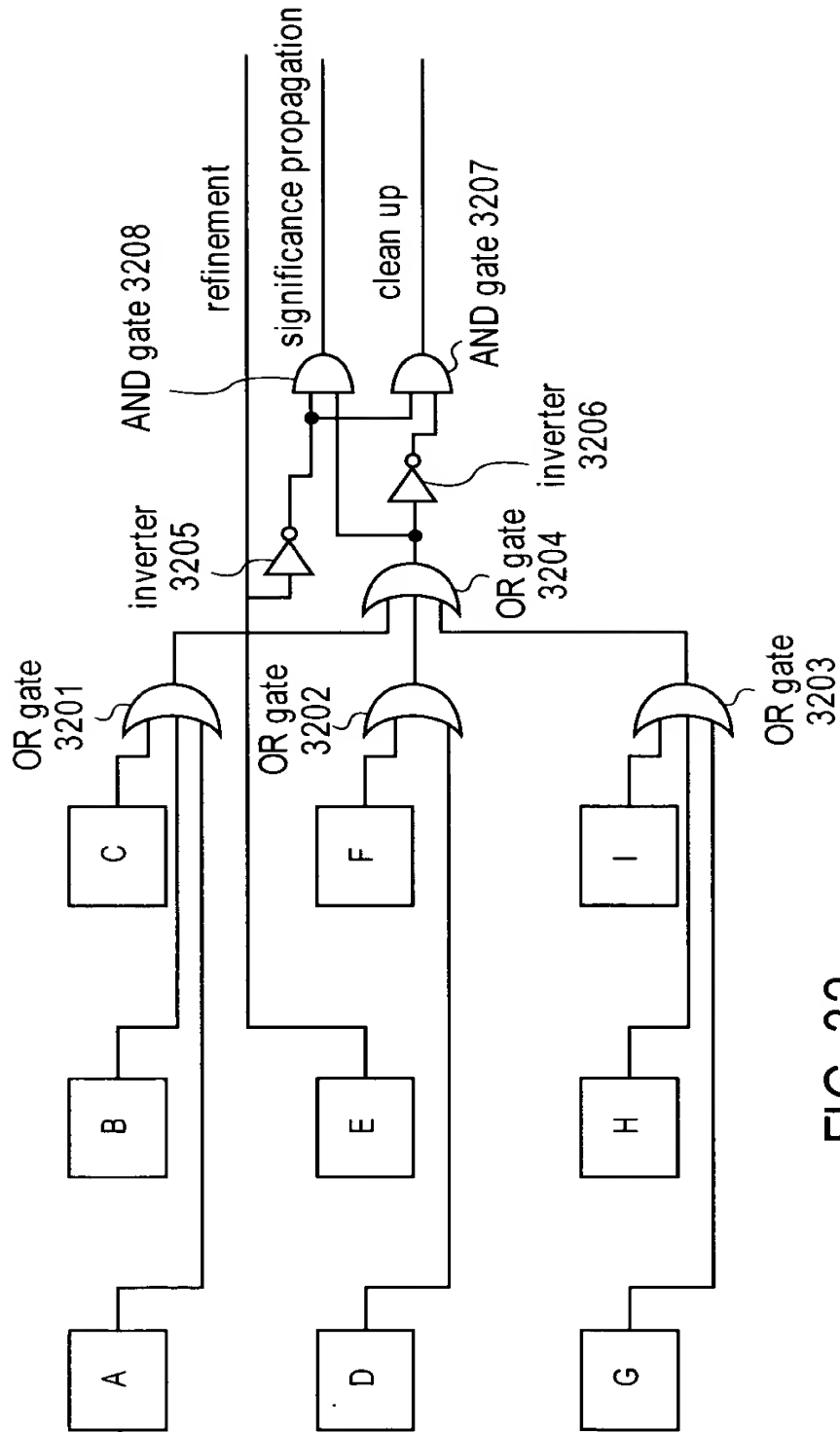


FIG. 32